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KERAMIC COLOURS FOR PORCELAIN PAINTING—II.*

No. 13.—Purplish Blue.

Ingredients:

3 oz. pure sesquioxide cobalt.
1 ,, tannic acid.
9 ,, sulphuric acid.
40 ,, ammonia alum.

Dissolve the oxide of this in just sufficient strong sulphuric acid to dissolve it, then dilute the solution with water, and add the ammonia alum. When this solution is thus prepared, dissolve the 3 ounces of sesquioxide of cobalt in the fluid, and when this has dissolved put the mixture into a porcelain evaporating dish and evaporate the mixture to a dry powder. Reduce this powder to a fine state by triturating it in a glass mortar, and then subject it to a red heat for several hours in a crucible, then allow to cool. Separately fuse 5 oz. of binoxide of bismuth with 1 oz. of crystallized boracic acid and mix 2 parts (by weight) of this compound with 1 part (by weight) of the other compound.

No. 14.—Purple Colour.

Ingredients:

2 oz. sesquioxide of iron.
5 ,, lead glass (prepared by fusing 5 oz. of red lead).
2 oz. sand.
1 ,, calcined borax.

The sesquioxide of iron is obtained by calcining ferrous sulphate (sulphate of iron) at a red heat until all the water of crystallization has been expelled, and its yellowish brown residue is converted into a violaceous red colour.

Brown Keramic Colours.

No. 15.—Dark Brown.

Ingredients:

1 oz. sulphate of cobalt (calcined, *i.e.*, anhydrous).
4 oz. sulphate of zinc (calcined).
4 ,, sulphate of iron (calcined until all the water of crystallization has been expelled).
10 oz. nitrate of potash.

Mix all these ingredients together in the dry state, then pack in a Hessian clay crucible and calcine the mixture until the potash salt has become thoroughly decomposed. This will be known by the fused mass passing from a semi-fluid to a dry state. Allow the contents of the crucible to cool, then remove them and boil the mass so obtained in water, so as to remove the soluble salts, and the solid residue is then dried, and for use mixed with 2½ times its weight of lead glass prepared as in No. 1.

The writer finds that when the mass in a clay crucible is difficult to extract, it is easily removed by plunging the red-hot crucible and contents into a tub of cold water, which will rapidly break down the fused mass, but there is one precaution to take, and that is to be careful that there is no semi-fluid or molten mass at the bottom of the crucible's contents, because if there be, the molten mass will be ejected out of the water with explosive violence, but the writer finds that much brighter hued colours are obtained by this means than when the contents of the crucible are allowed to become cold before being washed in water.

No. 15.—Pale Brown.

Ingredients:

6 oz. sulphate of iron (calcined).
4 ,, sulphate of zinc (calcined).
13 ,, nitrate of potash.

Fuse until red hot, and then mix 1 part of the washed and dried residue with 2½ parts of lead glass.

No. 16.—Cinnamon Brown.

Ingredients:

2 oz. of calcined sulphate of iron.
2 ,, calcined sulphate of zinc.
5 ,, nitrate of potash.

Fuse together until red hot, then wash, dry, and mix 1 part of the residue with 1½ parts of lead glass, prepared by fusing:

5 parts of red lead.
2 ,, of sand.
1 ,, borax (calcined).

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* Continued from June number.

No. 17.—Snuff Brown.

Ingredients:

1 oz. sulphate of manganese (calcined).
8 „ sulphate of zinc (calcined).
12 „ sulphate of iron (calcined).
26 „ nitrate of potash.

Fuse until red hot, wash and dry, and then mix 1 part with $2\frac{1}{2}$ parts of lead glass prepared as in No. 16.

No. 17*a*.—Coffee Brown.

Ingredients:

1 oz. calcined sulphate of iron.
1 „ calcined sulphate of manganese.
1 „ calcined sulphate of zinc.
5 „ nitrate of potash.

Prepare as directed in No. 15.

No. 18.—Buff Colour.

Ingredients:

1 oz. ferric hydrate.
4 „ lead glass.

Prepare the ferric hydrate by dissolving sulphate of iron in water, and, adding liquid ammonia to the solution, collect the precipitate.

Prepare the lead glass by fusing:

5 oz. of red lead.
2 „ quartz sand.
1 „ calcined borax.

No. 19.—Grey Colour.

Ingredients:

1 oz. ferric hydrate (*vide supra*).
2 „ proto chromate of mercury.

Lead glass prepared as in No 15.

Put the ferric hydrate and mercury salt into a porcelain evaporating dish and stand same in an open muffle furnace until all the mercury has volatilized, and then mix the residue with 3 times its weight of the lead glass, and rub up together on a sheet of glass.

No. 20.—Dark Grey.

Ingredients:

1 oz. sesquioxide of iridium.
4 „ oxide of zinc.
22 „ lead glass (prepared as in No. 15).

Triturate all the ingredients in a glass mortar.

No. 21.—Black Keramic Colours.

Ingredients:

2 oz. sulphate of cobalt (anhydrous, *i.e.*, calcined)
2 „ sulphate of manganese (calcined).
5 „ nitrate of potash.

Fuse the mixture in clay crucible until the semi-fluid mass becomes dry, then boil the mass in water until a deep black residue is obtained. Collect it on a filter, wash and dry, and then mix 1 part of this black mass with $2\frac{1}{2}$ parts of lead glass prepared by fusing

12 oz. red lead.
1 „ quartz sand.
1 „ calcined borax.

No. 22.—Another Black Pigment is prepared from the following ingredients:

1 oz. metallic iridium.
1 „ chloride of sodium (dried in an oven until it decrepitates).

Mix these ingredients and put them into a porcelain tube and pass a current of chlorine gas through the tube while heating it to a gentle red heat, and after calcining the mixture thus for thirty minutes, put the contents of the tube into hot water to extract the non-decomposed iridium. Add some carbonate of soda to this aqueous extract and evaporate the mixture to dryness, then digest the dry residue in water until a black sesquioxide of iridium is obtained. For use, mix 1 part of this black oxide with 2 parts of lead glass prepared as in last recipe.

H. C. S.

DRESDEN CHINA

For nearly two centuries the collecting of Dresden China has been a favourite hobby of the wealthy. The productions of the Meissen factory may be regarded as the most typical creations of the Rococo-period, but in spite of the discredit into which Rococo and Baroque-art have fallen in our days, Dresden China still holds its own in the auction room, and there is hardly a house which can lay any claim to comfort, in which there cannot be found some more or less valuable example of Dresden China among the ornaments of the mantelpiece or curio table. In view of this widely-spread popularity, it is curious that no attempt should have been made during these two centuries to compile the information on Dresden China from existing records, for the benefit of col-